Digital Data Standards: The Future of UST Compliance

Retail fuels is a unique and high-risk industry that centers around a promise – specifically, a promise to deliver fuel to consumers in way that effectively manages financial, environmental, societal, and safety risks. Effective delivery of this promise **must be grounded in data** to verify and validate the trust that stakeholders put in one another to execute.

According to 2018 EPA data reported by states, **30% of UST fueling facilities are out of statistical operational compliance (SOC)**. This measure, although interesting, was deemed insufficient by the EPA, which released new technical performance measures with the 2015 UST rule changes to supplement SOC data.

Nonetheless, more detailed (and critical) questions remain unanswered by the reported data:

- Which sites are non-compliant?
- Why are they non-compliant?
- How long have they been non-compliant?
- Who is responsible for achieving compliance?
- Who are the most responsible operators? Least responsible?
- How do I know when the site is back in compliance?
- What equipment creates the highest risk of a release? Where is that equipment?
- What activities create the highest risk of a release? Where are they occurring?
- What clear incentives exist for a business owner to maintain compliance?

The efficient and effective flow of digital data is foundational to finding answers to these questions. All retail fuels industry activities rely on timely and accurate exchange of data between stakeholders. Without data standards that enable this data exchange, the right people won’t have the right data at the right time to make the right decisions.

While the idea of digital data standards may seem abstract, these standards are needed for the same reason all standards exist: to make something broadly accessible. For example, in the USA, electrical standards ensure broad access to power and enable you to charge your cell phone in any outlet.

In the same way, digital data standards establish rules so information can be exchanged, measured, and understood by online programs – regardless of how the data was created or collected.
Digital data standards are particularly critical for the retail fuels industry because of three major factors:

● Retail fuels stakeholders have varying business and technical needs. Different people do different things with data.

● There is increasingly more data available to fuels stakeholders as technology advances. More data can make decisions easier, but managing huge volumes of data can be difficult.

● New regulations mean that different types of data are going to be to guide different types of decisions. The times they are a-changing.

Everyone in the fuels industry uses data to achieve their goals and create value. Although specific goals and definitions of value differ across stakeholders in our industry, digital data standards create a common language. A common data language makes it easier to consume and share data so everyone can progress towards their individual goals. For instance:

● Regulators use risk profile data to prioritize inspection activities

● Insurance brokers use equipment history to determine premiums

● Contractors use equipment data to perform testing activities efficiently

● Fuel carriers use live inventory data to manage deliveries

● Environmental consultants use tank alarm data to monitor compliance

● Maintenance managers use alarm history data to identify problem sites

EPA officials admit that the UST program has been “data-starved” for decades. With today’s technology, access to data is improving rapidly and dramatically. This presents a huge opportunity for different stakeholders to measure and manage their performance. However, without a common language to share data, the potential of this opportunity is severely limited.

For example, how can a best practice scale when it is impossible to pinpoint why something worked well or poorly due to incomplete and inconsistently formatted data?

On the other hand, imagine the potential improvement in regulatory compliance outcomes if complete, accurate, and consistent digital data sources helped us develop cost-effective compliance incentive programs.

For example, in Utah, such a program helps prioritize regulators’ time and create an attractive financial incentive for operators to comply. Next, we’ll peel back the layers of Utah’s incentive program to explore the possibilities...
Case Study: Utah’s Compliance Incentive Program

Facing budget pressure and headcount reductions in the early 2010s, Utah’s DEQ was concerned that compliance rates would decline without the staff to conduct inspections annually at each facility. Fortunately, the DEQ had taken advantage of Utah’s UST Database (originally a Microsoft Access database provided by EPA in the mid-90s, converted to SQL Server about 10 years ago) to maintain consistent and accurate records of equipment, ownership, and compliance performance data.

The team at Utah’s DEQ decided to put this data to use, creating a risk-based, data-driven regulatory process designed to prioritize inspections and incentivize compliance among operators in the state.

Two elements were considered:

1. Likelihood of a release
   a. Based on equipment data, historical compliance performance, etc.
2. Potential severity of a release
   a. Based on proximity to water sources, groundwater levels, etc.
   b. Incorporating Arc GIS for geospatial analysis

The riskiest 40% of sites are inspected annually, the next riskiest 40% of sites are inspected semi-annually, and the 20% representing the lowest risk are inspected once every three years. In addition, for facilities that participate in the State Cleanup Fund, an incentive was set up for facilities to lower their risk. Sites were categorized, based on a consistent data set, into different risk profiles.

Based on the likelihood risk profile, operators were treated differently:

<table>
<thead>
<tr>
<th>Risk profile tier</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 (lowest risk)</td>
<td>40% rebate on fuel surcharge fees</td>
</tr>
<tr>
<td>Tier 2</td>
<td>25% rebate on fuel surcharge fees</td>
</tr>
<tr>
<td>Tier 3</td>
<td>10% rebate on fuel surcharge fees</td>
</tr>
<tr>
<td>Tier 4 (highest risk)</td>
<td>No rebate on fuel surcharge fees</td>
</tr>
</tbody>
</table>

Leveraging a standardized data set and market incentives, Utah created a business case for compliance and preventative maintenance for their operators while also managing limited internal resources more effectively. Utah’s rate of statistical operational compliance remains 13% higher than the national average (83% vs. 70%).

Questions:

- What were the key factors that made this approach possible?
- What are the strengths of this approach?
- What are the pitfalls to this approach?
- What other data sources are relevant to a site’s risk profile?
- What is preventing this approach from scaling to other states?